2

At the Root of Change: The History of Social Innovation

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Introduction

This chapter explores the roots and developments of social innovation through comparative historical case studies. Specifically, this chapter introduces a theoretical and methodological framework for this historical discussion. It then goes on to discuss trends observed from a preliminary analysis of several historical cases of social innovation and offers a more detailed discussion of one specific case – the emergence of the intelligence test. This research contributes findings around three key trends and dynamics: how new ideas shift the intellectual landscape and create the space for novel combinations; the complimentary and overlapping efforts of 'poets', 'debaters' and 'designers' (different roles for agents); and the importance of agents functioning at both the niche and landscape level.

This chapter, as part of a larger project based at the Waterloo Institute for Social Innovation and Resilience (WISIR), Canada, examines the life cycle of a social innovation using historical examples. Throughout this chapter, social innovations are defined as new products, processes, procedures, policies and designs that seek profoundly to change authority and resource flows and eventually tip entire systems towards greater resilience and sustainability (Westley, Zimmerman and Patton, 2006). This cycle begins with the discovery and definition of new social phenomena (discrete new values or ideas about society, nature, technologies, processes and/or the individual that have credibility and legitimacy, with people acting as though they believe them to be true). These new social phenomena offer a glimpse of the 'adjacent possible' – the scope of possible social arrangements one degree removed from current realities (Kaufmann, 2000). By doing so, new social phenomena

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spark wider exploration and provide the opportunity for the creation of clusters of inventions and innovations. These innovations can ultimately shift an entire system, potentially moving it to a place of greater social resilience and rooting those new social phenomena as core ideas in the new iterations of the system in question (Westley *et al.*, 2011). Wallerstein (1974) argued truth changes because society changes, but this chapter suggests that as new 'truths' emerge and compete for dominance, they create the space for society to follow.

Mulgan (2006) pointed to the 'radical innovation' origins of much of modern life. Although Mulgan saw social innovation as a response to modernity's twin pillars – industrialisation and urbanisation – many radical ideas that have changed society emerged long before the 18th and 19th century. Some of these are still embedded in society, while others have been displaced or abandoned over time. History allows the observation of patterns and disruptions across multiple timescales post hoc. This type of analysis is the goal of many contemporary studies of resilience and complexity (see Van der Leeuw *et al.*, 2011). A well-constructed historical narrative can provide insights into events and trends to a far greater extent than can be done in the moment (Byrne, 1998, p. 26).

Berkes and Folke (1998) argued that the characteristics of complex systems require a case study-based approach for their analysis. Several excellent studies have employed historical cases in their research into complex systems (Gunderson *et al.*, 1995; Berkes and Folke, 1998; Ommer, 2007; Redman and Foster, 2008; Bures and Kanapaux, 2011). Despite the dangers of historicism (imposing the perspective of inevitability on events), history can provide a rich resource for those looking to understand social processes. However, there is an equal risk of over-emphasising detail, context and specificity, as there is of imposing rigid theory on the messy complexity of human systems. In complex systems, information and behaviours do not necessarily scale up; activity at the micro level does not simply add up to produce outcomes at the macro level and one does not necessarily explain the other, hence the benefit of conducting multiple cases, with replication in questions and design, to allow for cross-case comparison (Yin, 2003). Multiple cases of equal and significant depth hopefully allow the researcher to differentiate context and phenomena, as individual details must be 'always considered within the broader concerns of the overarching research question' (Ommer, 2007, p. 26).

This chapter is based on research carried out during the initial stages of a comparative historical project at WISIR. Since social innovation is

defined here as including products as well as deliberative processes and policies that are transformative in their outcome with respect to building greater social resilience (Westley, Zimmerman and Patton, 2006), the case selection focused initially on these disruptions and then worked backwards. This approach revealed unexpected combinations, incredible innovations and sometimes no ultimate innovation at all. Cases also focused on those products and processes that sought to shift systems towards greater inclusion, greater resilience and greater prosperity, although it became clear that such objectives do not always translate into their desired outcomes. Additionally, wider social changes can ultimately cause a great innovation with an admirable social goal to fail. Two such examples of failed social innovation are included in the overall set of cases analysed. After extensive discussion of possible examples of historical social innovations, cases were selected that represented a broad spectrum of innovations and disruptions in different domains and temporal spaces, including the American national parks system, the World Wide Web, financial derivatives, contraception, intelligence testing and the Dutch spice trade. At this early stage of the project, breadth was preferred to test the hypothesis in different contexts.

The research aimed to find out whether there were common mechanisms or trends across disparate disruptive shifts. The first step was to identify significant institutional shifts (such as the introduction of a new law). Looking at these discrete moments, the goal(s) (rather than the results) of these new pieces of legislation or institutional changes were explored and the windows of opportunity that made change possible were identified. Therein, this research looked for new ideas: it considered both the description and discovery of new ideas and the convergences of new and existing ideas and trends, and investigated whether any of these new ideas constituted a new social phenomenon.

A framework for analysis

Social innovation is of increasing interest in exploring 'wicked problems', limited resources and ingenuity gaps (Rittel, 1972; Westley, Zimmerman and Patton, 2006; Bason, 2010; Homer-Dixon, 1995). Despite the apparent novelty of social innovation as a construct or set of discourses, humans have experimented and achieved disruptive and durable social change repeatedly over time. This research suggests that social innovation is a common dynamic of human history, although the way in which sustainability and resilience are defined at specific historical moments is not a constant. This is especially important from

an analytical standpoint, as including a range of historical examples considerably increases the pool of social innovations that can be studied, allowing researchers to test multiple theories and look for overarching patterns and commonalities across cases. The theoretical framework employed here to explore historical social innovation is composed of three broad elements: the driving force of new (and new combinations of) ideas into the adjacent possible, the compilation of different agents' activities within a specific case and the importance of understanding the obstacles and opportunities at the niche and landscape level.

New ideas; novel combinations

Combination of two or more existing ideas, theories or products is commonly acknowledged as a key driver of technological innovation and scientific discovery, and similarly is seen as a key mechanism of innovation generally (van den End and Kemp, 1999; Becker *et al.*, 2006; Arthur, 2009; Biggs *et al.*, 2010; Thagard, 2012). Arthur (2009) suggested new technologies and technological domains emerge as the result of the discovery of new naturalistic phenomena, as well as through the combination of existing technologies within and across domains. Similarly, looking at 100 scientific discoveries and 100 technological innovations, Thagard (2012) sought common features of how individuals involved in those breakthroughs had perceived and/or created novelty. Thagard credited combinations of mental representations (ideas that combine two or more distinct concepts, products, etc.) as the most common, compelling explanation for the creative process.

This research considers a social dimension of the combination hypothesis of invention. It examines how the emergence of new social phenomena – discrete new ideas about society, nature, technologies, processes and/or the individual – can create the opportunity for new perceptions of or re-interpretations of social arrangements and of human behaviour, individually or collectively. These new social phenomena allow for glimpses of the adjacent possible, the range of alternative social arrangements just beyond the horizon of prevailing practice (Kauffman, 2000; Johnson, 2010). Translating this glimpse into action, agents create new processes, products, programmes and, eventually, policies, all or any of which can produce deep shifts in complex social systems (this assertion is hypothesised from arguments in Arthur (2009), as well as the description of social innovations' potential as described in works like Westley, Zimmerman and Patton, 2006). The exploration of the adjacent possible is a key dynamic of social innovation.

This chapter proposes three general categories of social phenomena: naturalistic, constructed and technological. Naturalistic phenomena are primarily discovered in the realm of science. An example of a new and transformative naturalistic phenomenon was the discovery of the microbial cause of cholera, which replaced the miasma hypothesis and arose from discrete observations strengthened by careful data collection (Johnson, 2006). For example, Dr John Snow tracked an entire, and very deadly, outbreak of cholera in 19th-century London, clearly demonstrating that the only common thread between disparate victims was a single contaminated water pump. The weight of such evidence pushed key thinkers and decision-makers away from believing in bad air and towards an understanding of bad microbes as cholera's cause (Johnson, 2006).

Constructed phenomena are concepts that a discrete group (a culture, a sect or a political group) believes to be true and that guides their behaviour accordingly. These reflect an earlier sociological concept, the 'social fact', namely ideas, rules and beliefs that are real in their effects (if not always strictly tangible or falsifiable), and constrain or direct our activities (Durkheim, 1912; 1968).

Technological phenomena consist of both individual technologies (e.g., a car or computer or the subsidiary technologies of which they are composed) and technology regimes. New technologies can enhance people's ability to engage with the natural world or achieve insights into the workings of their own bodies. Similarly, new technologies or technology regimes – such as the World Wide Web – can affect how societies live and how citizens interact and organise their economies, as well as affecting the larger flows of power. The emergence of each type of phenomenon can trigger or create space for social innovations that can ultimately change an entire social system; a new idea can, thus, lead to further opportunities for transformative innovation.

The heterogeneity of agency

The social innovation process is often the result of the interaction of agency and institutional dynamics (North, 1990; McCallum *et al.*, 2009). This chapter's exploration of historical social innovation further distinguishes agents' behaviour and roles into three categories (adopted from Himelfarb, 2013): the 'poet', the 'designer' and the 'debater'. These are agent 'roles' (an agent can transition between roles), and this chapter argues that the success of a disruptive social innovation relies on the cooperation or compilation of their efforts at specific moments and over time. The poet shapes or expresses the new idea or social phenomenon,

the designer converts the phenomenon into an innovation (a policy agenda, a programme, a product, etc.) and the debater advocates either for the innovation, the new phenomenon, or both.

The debater is the historical social or systems entrepreneur, who champions an innovation through the system, convening different stakeholders and interest groups; 'finding the opportunities to leverage innovative ideas for much greater system impact' (Westley, 2013). However, the roles of designer and poet are not directly translatable to the existing concepts of the social entrepreneur defined or discussed in the business or social change literature (Peredo and McLean, 2006; Mair and Marti, 2006; Bornstein, 2007; Gunn and Durkin, 2010; Abu-Saifan, 2012). Perhaps this is a function of the difference in breadth between the concepts. The poet, who first observes and/or describes a new social phenomenon, is not necessarily tied to the social innovation or social change process. Instead, that role falls on the designer, who sees the opportunities created through the adjacent possibles that are opened up by the description and specification of this new phenomenon.

For instance, the early 19th-century romantic artists and explorers who first praised the 'pristine' and distinctive quality of America's interior did not themselves decide that large public parks were the appropriate means to protect and share that experience. Their celebration of wilderness was the inspiration for the creation of the first national park at Yosemite during the American Civil War. It took the combined work of men like landscape architect Frederick Law Olmsted (a designer who wrote a manifesto for parks) and businessman-turned-environmentalist John Muir (co-founder of the Sierra Club) to lobby the public and government to create a system of parks open to the entire American population. Thus, poets, designers and debaters built on the work of each other to create disruptive change.

Scale

To achieve broad, lasting change, social innovations must cross multiple scales (Westley *et al.*, 2011). Actors can work across scales and can influence rules and structures: 'action is constrained and enabled by structure, but through reflexive feedback, structures are also changed by agency' (MacKay and Tambeau, 2013, p. 676). In this research study, cross-scale, cross-case comparison initially proved problematic. The DRIFT group used a framework consisting of three scales – niche, regime and landscape – in their interesting examinations of socio-technical transitions (Geels, 2006; Geels and Schot, 2007). However, since the historical cases considered in this study represented highly variant problem

domains, geographical domains (regional, national and international) and temporal scales, defining a common 'regime' or a similar meso-level of analysis was difficult. Exploring the landscape (macro) and niche (micro) scales, however, proved critical in understanding the ways in which ideas open up adjacent possibles.

The landscape scale comprises the 'backdrop that sustains society' (Geels and Schot, 2007, p. 403), ranging from the physical environment to the 'political constellations, economic cycles, and broad societal trends' (Westley *et al.*, 2011). Borrowing from the Resilience Alliance's heuristic discussion of resilience, this chapter uses the concept of 'basins of attraction', defined as the factors within a given landscape that contribute to the stability of a specific system or set of arrangements (Folke *et al.*, 2004). These are deepened by landscape conditions – the collection of resources and the influence of overarching 'big ideas' (such as democracy, capitalism and scientific progressivism) that maintain stable states within that broader landscape. It also identifies the importance of historical niches or micro-level sites – protective spaces where agents exchange ideas, experiment and explore relative possibilities.

Building on the assertion that a disruptive innovation can trigger the transition of a system from one basin of attraction to another, and that an institutional or systems entrepreneur can also lower the thresholds between proximate basins (Hwang and Christensen, 2008; Westley *et al.*, 2011), historical examples of this dynamic were sought within the cases. The analysis showed how agents were able to travel between the niche and landscape level to aid critical transitions and advocate for their particular innovation. In the case of the World Wide Web, designers (frequently programmers) often considered what could be done technologically (working in research institute niches, for instance), and also what *should* be done. The latter question was a landscape-level concern, as designers like Ted Nelson (*The Computer Manifesto*) sought to create an open, egalitarian web, which reflected their political and social values broadly.

Hence, the theoretical framework developed here encompasses both the interplay of agency and structure, and the idea that innovation and exploration can be both spontaneous and contingent as well as deliberate and thoughtful. This analysis sought to understand not just the conditions that favour disruptive change but also the behaviours that encourage it, and to identify the important actors and milestones in the lifecycle of an idea from possibility to innovation to disruption to orthodoxy.

The intelligence test: an explanatory case study

The creation of the intelligence test was a specific solution to a concern about how to arrange people in an emerging modern meritocracy and industrial economy, grounded in the growing faith in scientific progressivism to improve society and individuals. The particular scientific – or pseudo-scientific – basis for the tests relied on a combination of theories of genetic inheritance and Social Darwinism, as well as new scientific techniques that facilitated repeatable mass testing. There were two 'poets', Sir Francis Galton (the creator of Social Darwinism) and Alfred Binet, who articulated mental capacity as 'intelligence'. Binet himself was also a 'designer'. He created the first reliable test of children's cognitive abilities, although other designers experimented with the potential of testing mental capacity two decades before Binet debuted his test in 1911, and continued to refine Binet's test for years to come. Two key 'debaters' advanced the idea of testing in America: Henry Herbert Goddard, a psychologist who worked with people labelled 'feebleminded', and Robert Yerkes, a psychologist whose chairmanship of the National Research Council during the First World War allowed him to successfully advocate for testing for all American army recruits. Although Goddard and Lewis Terman (another designer in this story) began work in their respective laboratory/academic settings, as debaters, they were able to see the policy implications of their work and read signals of potential landscape shifts as opportunities to advance the use of the intelligence test.

New ideas, new combinations and adjacent possibles

Two key new naturalistic phenomena (re)discovered in the 19th century had foundational effects on the education and treatment of children. The first was Darwin's description of natural selection, which, he argued, 'works solely by and for the good of each being, all corporeal and mental endowments will tend to progress towards perfection' (Chitty, 2007, p. 25). The second was the rediscovery of Mendel's rules of genetic inheritance, specifically heredity.

So emerged an adjacent possible: if features such as eye colour and height could be explained by genetic differences, some reasoned the same could be said for character, for intelligence and achievement, as well as for social problems such as crime and poverty (O'Brien, 2011). Darwin's second cousin, Francis Galton (an example poet for scientific progressivism's ability to improve society, and rank humanity according to measurable merit), applied the concept of natural selection to explain

social stratification: those who enjoyed the spoils of society were closer to 'perfection' than their lesser fellows (Chitty, 2007; Dudziak, 1986). This 'Social' Darwinism mixed scientific and social validation of a class-based society (inequality of situation and opportunity), combining naturalistic and constructed phenomena. This in turn created a new adjacent possible: specifically, might heredity and science build a better population? These views defined the intellectual niche of Eugenics, the so-called 'science' of improving the quality of humanity (Chitty, 2007). 'Better' here meant racial purity and was usually seen from a middle- or upper-middle-class Protestant perspective, borrowing elements from Malthusian and Darwinian theory (Dudziak, 1986; Zenderland, 1998).

Many who were concerned with social improvement in the late 19th and early 20th century considered the 'menace of the feebleminded' to be a significant threat to public safety and social progress (Samelson, 1987, p. 114). If 'better' was possible, so too it must be possible to eliminate society's least desirable, specifically those labelled 'feebleminded'. According to this view, 'the feebleminded' posed a several-pronged threat (reflecting in part the confused and flexible definition of 'feeblemindedness'): they were incompetent (and idle), so they did not and could not contribute to the productive economy, and collectively and individually, they represented a threat to public health and morals as they were liable to commit such sins as 'promiscuity, adultery, incest, crime and alcoholism' (Dudziak, 1986, p. 845; Zenderland, 1998). Thanks to the combination of these social views with new understandings of the naturalistic phenomenon of inheritance, negative behaviours were perceived as the result of bad genes and, therefore, fixed more than environmental.

The intelligence test: a social innovation

The belief that the differences among people, including ability, character and intelligence, were measurable and determinate opened up a new adjacent possible for educators. Progressives had campaigned for decades for technical and scientific expertise in designing, implementing and evaluating public policy (Cravens, 1987). Within this broader debate about the direction and content of the public realm, the education regime in North America and Western Europe was undergoing a fundamental pedagogical shift, from philosophy to psychology (Blanton, 2000; Cravens, 1987). Education had become the state's purview in many Western countries, and education officials sought to take advantage of new scientific quantitative measurements methods effectively and definitively to test and stream their student bodies (Chitty, 2007).

As part of the view that schools were the avenues to change or build society, several niches of experimentation presented new innovations to scale across the system. As an example, to address the concerns of 'feeblemindedness' in schools, an association of American teachers established special education programmes in 1902, where instruction would be tailored to the academic limitations or specific needs of a class of students (Zenderland, 1998). But to educate the 'feebleminded', there needed to be an effective, reliable method of sorting the student population. Education officials sought to take advantage of the emerging statistical study of human populations (a new technological process), especially the permanent census (Ramsden, 2003). The ability to collect and process large amounts of data about a state's population informed many aspects of the state's growing responsibilities, including the management of the classroom. There was competition between different types of tests and different assumptions of how hereditary intelligence could be measured, but most failed to scale beyond the small niches in which they developed (Sokal, 1987).

In the last decades of the 19th century, psychological laboratories emerged in universities. While these laboratories were ideal niches for experimentation, they had failed to produce workable, scalable innovations. Charles Spearman – a key poet in the development of intelligence testing – lamented the first decades of his discipline as failing to achieve its promised impact on such fields as education, or on life more broadly. In an artistic flourish, he remarked that the laboratory results had yet to bridge the divide between academia and society: 'the results of all good experimental work will live, but as yet most of them are like hieroglyphics awaiting their deciphering Rosetta stone' (Spearman, 1904, p. 204). In this 1904 treatise (surprisingly replete with such bold illustrations), Spearman reported on a correlation he observed: people who did well on one form of mental test did well on all forms of mental tests (Bartholomew, Allerhand and Deary, 2013). Spearman hypothesised that there existed a 'general mental ability' which he labelled *g*: 'Spearman speculated that its [g] biological basis was some general aspect of how brains varied between people' (Bartholomew, Allerhand and Deary, 2013, p. 223).

The most important poet (and designer) in the case of the intelligence test was Alfred Binet. He sought a practical way to capture 'g' or his equivalent: importantly, this test must be 'a work of administration, not a work of science' (Binet and Simon, 1905, trans. Kite, 1916). Binet devised the first reliable test of children's cognitive capabilities, based on the twin assumptions that ability is based on genetic inheritance rather than environmental factors and that it can be mapped systematically

over time. Binet and his colleague Theodore Simon devised the first practical test to distinguish the mentally incapable from those failing for environmental rather than genetic reasons (Spearman, 1904; Chitty, 2007; Zenderland, 1998). Those children whom the test 'objectively' indicated were 'feebleminded' could be institutionalised, a separation believed to be in their best interest and as well as the interest of society generally (Blanton, 2000, p. 1016).

Scaling towards a tipping point and mass adoption

In this case, one key debater who scaled Binet's test in the United States and who argued for intelligence as a naturalistic phenomenon was Henry Herbert Goddard. Goddard was a psychologist and Director of Research at the Vineland Training School for Feeble-Minded Girls and Boys in New Jersey, a niche that allowed him to experiment with different tests. A vociferous advocate for intelligence testing and the role of psychology in education, Goddard successfully shifted the narrative of 'feeblemindedness' in America to a question of intelligence (Zenderland, 1998). Binet had developed his test for the French school system (Binet and Simon, 1905, trans. Kite, 1916), and his ideas and practices were largely limited to Europe until the spring of 1908 when Goddard, as the latter wrote later, 'made a visit to Europe in the interests of the work [of the Vineland Laboratory]' and 'learned of the tests', from a Dr Decroly in Brussels, who had recently completed his own tests using the Binet-Simon method (Goddard, in Binet and Simon, 1905, trans. Kite, 1916, p. 5). Goddard advocated for the theory that 'feeblemindedness' was the result of a lack of intelligence, and that a simple test could differentiate these children from the broader class. He was able to convince American doctors working in institutions for the 'feebleminded' to 'redefine mental deficiency in terms of intelligence' (Zenderland, 1998, p. 104).

At first, the proposed solution to 'feeblemindedness' was institutional segregation. Advocates believed that a good institution could even train the 'feebleminded' to 'go out into the world and support themselves', but that should only be allowed if the 'feebleminded' could be sterilised to remove 'the terrible danger of procreation' (Zenderland, 1998, pp. 81–182; Dudziak, 1986). If 'feeblemindedness' was inherited, then removing any question of genetic transmission could remove the major threat the 'feebleminded' apparently posed to society.

Disruptions and social shifts

The intelligence test quickly facilitated another form of social control over those deemed 'feebleminded', as new medical technology allowed

for safe sterilisation. Beginning with Indiana in 1907, twenty-eight states introduced compulsory sterilisation laws (although it was not until the case of Carrie Buck in 1925 that any of these laws were upheld at the state supreme court level) (Dudziak, 1986). Mass testing was also used to 'validate' assumptions about the hierarchy of races. Binet explicitly did not want his test to be used to rank people, beyond separating those who fell below a certain level and could benefit little from conventional education (Blanton, 2000). Once the process was available, however, it was quickly seized on by others who aimed to differentiate people based on intelligence and race.

Lewis Terman expanded the scale of Binet's test to a wider range of age categories, including adults in 1916, which facilitated the work of Robert Yerkes, another key debater in the adoption of the intelligence test. Like Goddard, Yerkes was an American psychologist. Yerkes believed science could validate and inform a merit-based hierarchy of people based on their ability and potential contribution to the economy (Kevles, 1968). Yerkes was the Chairman of the National Research Council in the United States, a position that put him in direct contact with key powerful individuals within the American military.

America joined the Allies in the First World War in 1917, and needed to raise a large (mainly civilian) army quickly. Yerkes saw this as an opportunity for psychology generally and intelligence tests specifically to demonstrate their utility in evaluating human potential rapidly and efficiently. He convinced the Surgeon General of the Army of the potential of testing its new recruits as the country quickly expanded its forces for combat in France (Kevles, 1968). Half a million men underwent the test. Although this process was not without problems[1] (Blanton, 2000; Pinter, 1926), tests on this massive scale were seen to validate both the test and the concept behind it – intelligence. In 1919, the *Lancet* declared, 'Intelligence, of course, is only one of the factors in military efficiency, but it is probably the most important single factor', and that, thanks to the war, intelligence tests had given 'clear indications of their future value in the work of human selection and vocational training' (p. 539).

The rush of tests during the war may not have resulted in many privates being raised to officers, as Terman and others had argued they would. However, the war did allow the test to scale out from niche laboratories very quickly, reflecting the Lancet's confidence that the test would change vocational training. The war was a proof of process, that testing could be done on a mass scale, and produce results in which the testers had confidence. As a result, schools increasingly adopted the tests

(Watson, 1953; Blanton, 2000). Simultaneously, Goddard introduced internships for consulting psychologists at his Vineland school, further reinforcing the tests' role in psychology as new entrants were trained at this centre of Binet-based testing (Watson, 1953).

The link between Eugenics and race was central to the perverse logics of Nazi Germany, but it is hardly the only example. One particularly well-documented example was the mass I.Q. testing that the state educational establishment of Texas used to affirm their belief in a hierarchy of racial intelligence (Blanton, 2000). The testers wanted to find differences between Caucasian, Hispanic and African American children. When the results strongly pointed to an urban–rural divide instead, they hypothesised (and then concluded) that this reflected a difference in the children's skin tone – something for which the children were never tested (Blanton, 2000). Chitty (2007) has argued that the link between fixed intelligence and class was reflected in the ongoing differentiation of academic and vocational education that began in the late 19th century: 'we need to educate the middle class but merely to train the working class'. Although credible accusations of racism and classism remain, nevertheless tests of intellectual capacity opened up educational opportunities for lower-income children, beginning in the 1950s (Blanton, 2000).

Conclusion

Given much of the current interest, verging on excitement, surrounding social innovation, it is an ever-present risk that the concept becomes a normative label for the products, processes and procedures that are valued today – such that novelty is inherently seen as better than past arrangements and ideas. History is rich with examples of such hubris and, although it is a useless (and often inaccurate) truism to say history repeats itself, this chapter suggests that the study of social innovation is richer for a consideration of historical examples, especially when those examples reflect both on the process of change but also its risks. This is not to recommend a paralysis among social entrepreneurs – not all social innovations are the equivalent of the intelligence test – but to support the acknowledgement of actors' part in complex systems. Social innovation is not a process through which to achieve a Whiggish ideal future but rather an ongoing re-evaluation and exploration of systems as needs and values change.

The story of the intelligence test is not a celebratory one, but it was certainly an attempt better to serve the marginalised (in this case 'serve'

must be interpreted through the cultural lens of the time) and to build a more resilient society through scientific–social partnerships. The big ideas of scientific progressivism created opportunities for innovation: concepts of intelligence generated the possibility of a test for ability and theories of inheritance, for sterilisation based on the tests. Poets created and described this opening to the adjacent possible, designers created tests that could bring the current reality into line with that future and debaters made the necessary connections (political, medical and institutional/educational) to bring the intelligence test from its niche in laboratories and small-scale schools to become a key element of the meritocracy in pre-war America.

The history of social innovation offers a glimpse of process, of agency and of perspective: indeed, of the entire lifecycle of the innovation process. As an example of WISIR's ongoing research project into social innovation, the intelligence test highlights the importance of landscape-level events, particularly the World Wars, as massively disruptive, creating multiple, and sometimes surprising, windows of opportunity for agents like Yerkes who can align their networks and campaign for their particular project or product. Additionally, the emergent professional and educational bodies important in the story of the intelligence test appear increasingly relevant in many of the research cases, especially those in the increasingly merit-based 20th and 21st century. Individual innovations aside – and these can be systems shifting too – it is the dynamics of the social, economic and political systems that emerge so powerfully in historical cases and, when stripped of specific context, offer great potential to inform current study of social innovation as an increasingly important and self-conscious phenomenon.

Note

1. Terman's results reflected his own racial assumptions and tested individuals' level of education rather than their capability. His views were also clearly demonstrated in his hope to reduce the number of children born to non-white Americans.

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